animatograph, the episcope and skiopticon, and also very perfect arrangements for the projection of the spectrum. The Physiological Department contains, in addition, large rooms for:—Chemical physiology with separate work-places for over fifty students, and fuller accommodation for about six research workers; physical physiology enabling a class of more than thirty to carry out exercises on muscle and nerve at one time, each student's place being provided with electric light, water, gas, electric wire for supply of current, induction coil, electric battery, recording drum driven by fixed pulleys from the shafting running above the table, electric keys, and heliostat apparatus, &c.; histology with accommodation for about eighty students, with adjoining preparation and store rooms; also smaller chemical rooms, professor's private and photographic rooms, room for experiments in electro-physiology, and a smaller theatre for the demonstration of experiments. The Pathological Department has large rooms for:—Morbid histology with work-places for sixty students; bacteriological work with suction and force pumps for filtering, a bacterial mill for pulverising bacteria, and a plentiful supply of steam at high pressure to conduct the various boiling operations. There are also rooms for chemical pathology, museum preparator's work, incubators at constant temperature, private experimental work, pathological diagnosis society, bacteriological work of the city, gas analysis, and the professors' private rooms. Briefly stated the special features of the pathological laboratories are the impervious opaline slabs covering the tops of the work-benches, and diminishing the risk of contamination and facilitating cleaning, the use of steam for boiling operations, a plentiful electric supply working the lamps and the numerous motors, and a specially high-pressure water supply, and lastly the refrigerator chamber. Throughout the Thompson-Yates laboratories are fitted up in the most complete and perfect manner, both for teaching and research; and the favourable opinions which have been so freely expressed by the distinguished scientific visitors during the opening and following days may be briefly summed up in the quotation from Prof. Michael Foster's happy and stimulating speech at the banquet, that "they (the laboratories) produced two physiological effects—they took one's breath away, and they made one's mouth water."

The invitation from the Council and Senate of University College to the opening function was accepted by a large number of distinguished men of science and representatives of universities and medical schools from all parts of the country, including Lord Lister and Lord Kelvin, Earl Spencer and the Earl of Derby, the Bishops of Ripon, Carlisle, Chester and Liverpool, Prof. Virchow, Sir S. Wilks (President of the College of Physicians), the Vice-Chancellor of Cambridge University, Prof. M. Foster and Prof. Burdon Sanderson, the Presidents of the Royal College of Physicians and Surgeons of Edinburgh, Sir W. Turner, Sir W. Gairdner, Sir Douglas Galton, Sir A. Geikie, Sir J. Crichton Browne, Mr. R. B. Haldane, M.P., Mr. Justice Kennedy, Sir James Russell, Prof. Rutherford, Dr. Lauder Brunton, Captain Abney, Prof. Rücker, Prof. Poulton, Prof. Gotch, Prof. Kanthack, Sir R. Thorne Thorne, Prof. Schäfer, and many others. These guests, for the most part in their academic robes, walked in procession with the civic authorities, the University and College staff, forming a ceremonial that for stateliness, brilliance, and interest has probably never been equalled before in Liverpool.

The scientific and medical guests arrived in Liverpool on Friday, and that day and Sunday were given up to private hospitality and informal meetings at the College and elsewhere; while Saturday, October 8, was the date of the University Degree ceremony and the formal opening of the new laboratories.

The University function was arranged to take place in St. George's Hall; and there, in the presence of the Lord Mayor and Corporation, the staff, graduates and students of the University, the distinguished guests, and a large concourse of citizens of Liverpool, the honorary degree of Doctor of Science was conferred upon Lord Lister by Earl Spencer, the Chancellor of the Victoria University.

Lord Lister was presented for the degree by Dr. Richard Caton, Chairman of the Medical Faculty, and formerly Professor of Physiology in University College; and both the Chancellor and Dr. Caton in their speeches drew attention to Lister's immortal life-work in the antiseptic methods of surgery, and to the benefits conferred thereby upon humanity and the lower animals.

After Lord Lister had been admitted to the degree by the Chancellor, and had signed the roll of graduates, the Principal of University College (Mr. R. T. Glazebrook, F.R.S.) made a statement as to the history of the medical school and of the erection of the new laboratories by Mr. Thompson-Yates. The generous donor himself was unable to be present, but a letter from him was read expressing good wishes.

Lord Lister then delivered a short address, for which a vote of thanks was proposed by the Lord Mayor of Liverpool, and seconded (in the absence of Lord Derby) by Mr. W. Rathbone, Vice-President of the College.

Lord Lister pointed out in eloquently simple language the necessity for such laboratories in medical education, their importance both in teaching and research, and the benefits they were calculated to confer upon the College, upon Liverpool, and upon the neighbourhood. Lord Lister then, with a boldness and wisdom which compelled admiration, made a dignified statement as to the utility and humanity of experiments upon animals, which coming from such a man on such an occasion cannot but have a most beneficial effect. He concluded this part of his address with the sentence, "While I deeply respect the humane feelings of those who object to this class of inquiry, I assure them that, if they knew the truth, they would commend and not condemn them."

After the function in St. George's Hall, the company proceeded to University College, where the brief ceremony of declaring the laboratories open was performed by Lord Lister, after the presentation of a key in a silver casket had been made by the Chairman of the College Council. A similar key was retained for presentation to Mr. Thompson-Yates. Lord Lister and the large assembly of invited guests were then conducted in parties through the laboratories; other parts of the College were also visited. Tea and refreshments were served in the Victoria building; and, finally, the Lord Mayor's banquet at the Town Hall in the evening brought to a conclusion the formal proceedings of what stands out as the first great University function in Liverpool.

College functions have been frequent; noble buildings and new laboratories belonging to University College have been opened before; but now for the first time the professors and students appeared not merely as members of the College, but of the Victoria University. Liverpool is to be congratulated not only upon the splendid new laboratories, not only upon the impressive ceremonial of their inauguration, but also upon the fact that the first honorary degree conferred by her University, in the City, has been bestowed upon such a man as Lord Lister.

THE OPENING ADDRESSES AT THE MEDICAL SCHOOLS.

IN respect of an opening address there seems at the medical schools no fixed rule; in some cases the first year's student plunges *in medias res*, and the first word he receives from his teachers is actually work; in others a more or less philosophical discourse, often, it must be admitted, more suited to the practitioner or advanced student, forms the prelude to a medical curriculum. The actual need for an opening address on medical education is really somewhat less than would be thought, since the "Student's Numbers" of the *Lancet* or *British Medical Journal* contain usually all that can possibly be said in the way of general advice to the student, and these every student or his parents read. This fact, doubtless well known to those giving the addresses, is perhaps one explanation of the varied subject-matter which October after October gets worked up and delivered as introductory addresses. What is in a name? Whether the introductory address benefits the first year's student or not, it at any rate forms an excuse for a batch of interesting dissertations, which have at this season of the year, when returning from holiday and bent on work, an effect both stimulating and refreshing. Stimulating, because from these addresses we get glimpses of the varied character and enormous extent of the undiscovered country, which lies open to the scientific explorer; refreshing, because we get a few tastes, as it were, of the fruit of the promised land.

The address of addresses this year was Prof. Virchow's, which was printed fully in these columns last week. The Mason College, Birmingham, was fortunate in having Prof. Michael Foster as lecturer. The subject chosen was the nature and function of a university. Prof. Foster has a high ideal of what a university ought to be, and, in view of the formation of a Midland University, indicated at Birmingham, what should be the aims of those entrusted with the foundation of this University. It is a relief to-day, when universities are rather apt to be regarded as examination-framing and degree-giving machines, to hear an eloquent voice raised which emphasises the value to the medical student of research and individual laboratory supervision, as being not only the best but in the long run the quickest way of teaching him the way to think, and thus attack the problems which the future practice of his profession will present to him.

Mr. Turner, in his inaugural address at St. George's Hospital, directed the attention of his audience to, perhaps, a less ideal, but nevertheless an important subject. Mr. Turner contends, as many have done before, that the profession of medicine is not rewarded proportionally to its merits. Distinctions are *cœteris paribus* conferred less readily on medical men than on members of the legal or clerical profession. Further, authors have done a wrong to the medical profession on many occasions by distorting in fiction and elsewhere its characteristics. This, no doubt, is very true; but one is thankful that it is fast disappearing. That those in authority are not, or rather were not entirely to blame for these grievances is also equally true. The emergence of medical practice from crude empiricism to its present-day condition, demanding on the part of the medical unit higher intellectual faculties, as opposed to mere memory, which bring in their train an increased appreciation of the æsthetic, will certainly remedy the social position of the rank and file of the profession. The effect of this is already seen in the increasing numbers of medical *litterateurs* of the type of Oliver Wendell Holmes, and medical authors. Mr. Turner rightly not only indicated the disease, but suggested a remedy. While deprecating any attempt at organisation allied to trade unionism, he exhorted his hearers "to make by force their merit known," and cultivate amongst themselves an *esprit de corps* which would essentially overcome whatever obstacles it encountered.

A practical medical subject was the text of Dr. Caley's address at St. Mary's Hospital—prevention in medicine. Dr. Caley contended that to whatever extent the science of hygiene might develop, the actual prevention of disease will also depend upon the rank and file of the medical profession and the public. Some interesting points were brought out in this address with regard to some of Dr. Sidney Martin's researches on the effect of organically polluted soil on the retention of vitality by the typhoid bacillus. In the case of virgin soil inoculated with the bacillus, no signs of vitality were found after fourteen, twenty, or twenty-three days; in the case of polluted soil, the bacillus was thriving at the end of seven months. Dr. Caley emphasised the importance to Great Britain as a colonising power of the prevention of malarial fevers, and noted with satisfaction that, thanks to the new army medical regulations, a better class of army medical officer will be forthcoming. The lecturer further considered the application of prevention to tuberculous disease, and in this connection referred to the results of the Royal Commission on Tuberculosis and the recent French Tuberculosis Congress.

An important point in Dr. Voelcker's address at the Middlesex was the caution which he gave to students as to how they spoke of medical matters in lay circles. This might have been extended, as there can be no doubt of the incalculable harm that may be done by a student or doctor who is not possessed of tact. The public as a rule lose no time or spares no pains in making the most of what has the material in it of a medical scandal. Incautious students have before now doubtless unwittingly been sources of great mischief.

At the Royal Free Hospital, Dr. Walter Carr discoursed upon "Fashion in Medicine." Bleeding naturally found a place amongst the historic medical fashions, as also did the administration of calomel. Two present fashions in medicine were, according to Dr. Carr, the anti-toxine treatment and the treatment by animal extracts. At the close of the address he touched, appropriately to his audience, upon the future of the medical woman. He rightly urged the necessity of keeping up the standard of the medical woman, and gave a note of warning with regard to the possibility of the success, which had finally attended the movement, producing a less valuable individual.

The Pharmaceutical Society of Great Britain had the fortune to be addressed by Sir James Crichton Browne. Sir James pointed out that the examination of chemists and druggists ought to proceed on different lines to that of medical students in that the former were, as a rule, earning their livelihood by more or less manual service all the time they were in *statu pupillari*. Sir James discussed the sale of poisons and the possibility of new legislation upon this subject in the immediate future. The average poisoner, according to the lecturer, takes but little advantage of the recent discoveries of science. In this connection he pointed out the popularity of arsenic, which was used by Wonderton in his attempt, in 1384, to poison Charles VI. of France and the Dukes of Valois, Berri, Burgundy, and Bourbon. This drug was also the basis of the "manna" of St. Nicholas of Bari, and Toffania of Naples, which caused the deaths of 600 persons. In Sir James' experience no medical poisoner has ever used a drug outside Schedule A of the Poisons Act. From this circumstance the lecturer drew an interesting inference—viz. that medical poisoners, so far from being intellectual villains, were as a rule dull and stupid to a degree, since much more deadly and much less easily detectable substances lay to their hand, if only they would take the trouble to find them and be original. They are, in fact, another instance of intellectual incapacity being associated with moral debasement. The lecturer then entered upon the subject of disease toxines and allied bodies, and pointed out how in all probability the poisoner of the future would avail himself of this class of poison. In conclusion, the effect of anti-toxines in the prevention of the sequelæ of the infective diseases was pointed out; and basing his observations upon the dictum of Sir William Gull, that a patient took ten years to recover from an attack of typhoid fever, Sir James emphasised the benefit which would accrue to mankind from the use of these remedies.

Dr. Robert Saunby delivered an opening address at the Medical School of University College, Cardiff, on modern universities. The lecturer deplored the condition of university education in England so far as concerns medicine, and pointed to what was done by the State in Germany and France. This theme has been often dwelt upon, and not without effect. England is now waking up to the value of technical education, of creating places where men can pursue those studies which are to form their stock-in-trade for life.

The address at the Yorkshire College, Leeds, was given by Dr. Cullingworth upon the importance of personal character in the profession of medicine. The author referred to an interesting article by Sir James Paget on the result of an inquiry of what became of 1000 of his pupils fifteen years after their entry at St. Bartholomew's. This showed that 9 per cent. died within twelve years of their commencing practice, and forty-one, or about 4·5 per cent., during their pupilage, fifty-six failed entirely, the remainder were successful in all degrees varying from distinguished success to very limited success. This, on the whole, is not a bad average, and if it was possible to the medical student of 1870, more is possible and probable to the medical student of to-day.

From the above brief extracts it will be seen with what varied advice and dissertations the recruits of the medical profession have been introduced to their life study. The practitioner and advanced student, rendered more cynical, perhaps, by contact with his fellows, will be inclined, and possibly not altogether wrongly, to recall the words of Mephistopheles to the would-be medical student in *Faust*, and abide by them :—

> The trade of medicine's easiest of all.
> 'Tis but to study all things—everywhere
> Nature and man—the great world and the small.
> Then leave them at haphazard still to fare.

F. W. TUNNICLIFFE.

SURGEON-MAJOR J. E. T. AITCHISON, M.D., C.I.E., F.R.S.

BOTANY has lost another of its devotees. Dr. Aitchison died at Kew on the 30th ult., at the age of sixty-three, after two or three years of bad health, consequent on a weak heart and other complications. He was a man of fine physique, and of a genial and happy disposition. The son of Major J. Aitchison, H.E.I.C.S., he was born in India in 1835. After successfully studying medicine and surgery at Edinburgh, he entered the Bengal medical service in 1858, and remained in it for thirty years. But it was as a botanical explorer and an investigator of the vegetable products of the various countries he visited that he was known in the scientific world. Enthusiastic, enterprising, and persevering in no ordinary degree, he succeeded in forming valuable botanical collections under difficulties that would have discouraged and prevented many men. Science is primarily indebted to him for collecting plants and their products and local information concerning them. In these investigations he was indefatigable ; and he had a rich field for his labours in North-west India, Afghanistan, Baluchistan, Persia, and Russian Turkestan. He seems to have been led to botanical pursuits by the study of Indian drugs, as in tracing their origin he became familiar with vegetable organography, and acquired a love for plants which he retained to the last. Indeed, he settled at Kew in order to be able to continue his studies. His first contribution (1863) to botanical literature was an enumeration of the plants of the Jhelum district of the Punjab, with notes on their products and distribution. It was in this paper that he published the only new species, I believe, that he ever described independently. For the many novelties he subsequently discovered he always called in professional aid, being too modest and too anxious for accuracy to attempt it alone.

Subsequently, in 1869, he published a catalogue of the plants of the Punjab and Sindh, which, however, was a good deal more than a catalogue. This was followed by a lengthy paper on the flora and vegetable products of Lahul, a "Handbook" on the trade products of Leh, and a number of smaller contributions to botanical literature. But his great harvest was made in Afghanistan and the surrounding countries. In the winter of 1878, he accompanied the troops under General (now Sir Frederick) Roberts into the Kuram Valley, and the following year was appointed botanist to the expedition. A collection of some 15,000 specimens of dried plants was made between Thal and Peiwarkotal, at elevations of 2500 to 15,000 feet. A further collection was made in 1880 in the same country ; and in 1884 he was appointed naturalist to the Afghan Delimitation Commission. This was even more fruitful than the previous expeditions, yielding about 800 species, represented by 10,000 specimens. But Dr. Aitchison not only collected specimens ; he also collected a large amount of local information concerning them. These immense collections were worked out at Kew, and the results published in the *Journal* and *Transactions* of the Linnean Society. The papers are prefaced by admirable descriptions of the vegetation and local conditions of the districts traversed. Apart from the plants collected by William Griffith during the first Afghan war (1839-40), Kew possessed very little from this interesting region ; hence Aitchison greatly enriched the herbarium and museum. In addition to the papers mentioned, he wrote a number of articles on the medicinal and other vegetable products of commercial value. I had almost forgotten to mention that he also collected zoological specimens.

Personally Dr. Aitchison was of a most amiable and kind-hearted disposition, and this, combined with his fine presence, tact and medical knowledge, enabled him to mix with the natives with impunity, and obtain information that others could not. One of the first things he did on arriving at a place was to treat the sick, and his reputation preceded him, so that he was often approached and besought for aid. In 1883 he was created a Companion of the Order of the Indian Empire, and in the same year he was elected a Fellow of the Royal Society of London. Unfortunately the last year of his life was saddened by the loss of his wife, to whom he had been deeply attached.

He was occupied during the last two years in preparing a *Flora Indiæ Desertæ*, to include the plants of North-western India, Baluchistan, and Afghanistan, but his ailments prevented him from doing more than collect materials. It is not possible to find at once an equally qualified person to carry this idea into effect.

Though Aitchison was little in society during the last four or five years, there are many who will feel the loss of one who was such a cheerful companion and warm friend.

W. BOTTING HEMSLEY.

CONFERENCE ON THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

AT the Royal Society on Monday evening, the President and Council held a reception to meet the delegates attending the international conference upon an international catalogue of scientific literature. The conference began on Monday, and practically all